

REMARKS

Claims 1-11 and 19-21 are now pending in the application. Claims 1-7 have been withdrawn. Claim 8 has been amended herein. Claims 12-18 have been cancelled herein. New Claims 19-21 have been added herein. Paragraph [0004] has been amended herein to correct an obvious error. The Examiner is respectfully requested to reconsider and withdraw the rejections in view of the amendments and remarks contained herein.

SPECIFICATION

The specification stands objected to as having a Title that is not descriptive. The Title of the application has been amended herein to be clearly descriptive of the invention to which the claims are directed. Therefore, reconsideration and withdrawal of the instant objection is respectfully requested.

REJECTION UNDER 35 U.S.C. § 102, OR IN THE ALTERNATIVE UNDER 35 U.S.C. § 103

Claims 8-11 stand rejected under 35 U.S.C. § 102(b) as being anticipated by, or in the alternative, under U.S.C. § 103(a) as obvious over Kim (GB 2,305,295). This rejection is respectfully traversed.

It is respectfully submitted that claims 8-11 are nonobvious and are patentable over the prior art of record. The present invention is drawn to a semiconductor device having a non-volatile memory transistor formed on a semi-conductor layer with an interlayer dielectric layer provided over the semiconductor layer and the non-volatile

memory transistor. Claim 8, as amended, calls for "the interlayer dielectric layer being in direct contact with a component of the non-volatile memory transistor."

In contrast, the Kim reference discloses and teaches a MOSFET positioned on a semiconductor layer (substrate 101) with a BPSG film 115 deposited over the MOSFET on top of which is a first-layer metal wiring 117, a first insulating film 119 and a silicon-rich oxide film 121. See Figure 2 and page 5, line 16 to page 6, line 14 of the Kim reference. Thus, in the Kim reference, the MOSFETs are separated from the interlayer insulating film 119 and silicon rich oxide film 121 by a BPSG film 115. This is not the same as "the interlayer dielectric layer being in direct contact with a component of the non-volatile memory transistor" as called for in claim 8. Thus, it is respectfully submitted that the Kim reference does not disclose, teach, suggest or provide motivation for the limitations called for in Claim 8. Claims 9-11 all depend from Claim 8 and, therefore, for the reasons stated above in reference to Claim 8, are also not anticipated nor rendered obvious by the prior art of record. Accordingly, withdrawal of the instant rejection is requested.

Referring now to newly added Claim 19, Claim 19 is directed to a semiconductor device having a non-volatile memory transistor formed on a semiconductor layer. Claim 19 calls for the semiconductor device having "an interlayer dielectric layer provided over the semiconductor layer and the non-volatile memory transistor, the non-volatile memory transistor having a split gate structure, wherein the interlayer dielectric layer includes an oxide film layer and a layer containing nitride provided on the oxide film."

In contrast, the Kim reference, as stated above, discloses a MOSFET on a semiconductor layer (substrate 101). The MOSFET does not have a split gate

structure. Thus, it is respectfully submitted that the Kim reference does not disclose, teach, suggest or provide motivation to have a semiconductor device with "the non-volatile memory transistor having a split gate structure" as called for in claim 19. Accordingly, it is respectfully submitted that claim 19 is novel and patentable over the prior art of record.

Referring now to Claim 20, Claim 20 is also directed to a semiconductor device having a non-volatile memory transistor formed on a semiconductor layer. Claim 20 calls for "the interlayer dielectric layer includes an oxide film layer and a layer containing nitride provided on the oxide film and the oxide film layer has a thickness of 10 - 80 nm."

In contrast, the Kim reference discloses and teaches a silicon-rich oxide film 121 deposited to a thickness for about 50 - 300 nm. See page 6, lines 16-17 and page 7, lines 30-31 of the Kim reference. Such a broad teaching lacks the requisite specificity to convey to the skilled practitioner that Kim possessed the invention. More particularly, the claimed range only overlaps Kim's disclosure at an extreme end. Kim's disclosure is more properly read as a preferred thickness of 175 nm. The Kim reference is too broad to render obvious the subject matter of Claim 20. This is remarkably apparent when one considers that Kim is silent regarding the benefits of forming the oxide film with thickness of 10 to 80 nm as called for in Claim 20. Accordingly, it is respectfully submitted that Claim 20 is novel and allowable over the prior art of record. Claim 21 depends from Claim 20 and, therefore, for the reasons stated above with reference to Claim 20 is also allowable over the prior art of record.

CONCLUSION

It is believed that all of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicant's representative therefore respectfully requests that the Examiner reconsider and withdraw all presently outstanding rejections. It is believed that a full and complete response has been made to the outstanding Office Action, and as such, the present application is in condition for allowance. Thus, prompt and favorable consideration of this amendment is respectfully requested. If the Examiner believes that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at (248) 641-1600.

Respectfully submitted,

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